



UNITED STATES PATENT AND TRADEMARK OFFICE

96
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,072	11/17/2003	Kia Silverbrook	ZG013US	4337

24011 7590 05/24/2004

SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

GORDON, RAQUEL YVETTE

ART UNIT PAPER NUMBER

2853

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,072

Applicant(s)

SILVERBROOK, KIA

Examiner

Raquel Y. Gordon

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/17/2003 (Initial Application).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10713072.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected under the judicially created doctrine of double patenting over claims 1-6 of copending Application No. 10/713070. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

1. A micro-electromechanical assembly that comprises:
 - a substrate that incorporates drive circuitry (claim 1);
 - a micro-electromechanical device that is positioned on the substrate and is electrically connected to the drive circuitry to be driven by electrical signals generated by the drive circuitry (claim 3/2/1);

and a covering formation positioned on the substrate so that the substrate and is configured to enclosed the micro-electromechanical device (claim 1).

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claims 2-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-6 of copending Application No. 10/713070 in view of Silverbrook (US666543). Copending application 10/713070 teaches every element of the instant claims including:

in which the micro-electromechanical device includes an elongate actuator that has a fixed end that is connected to the substrate so that the acutator can receive an electrical signal from the drive circuitry and a moveable end, the actuator being configured so that the movable end is displaced relative to the substrate on receipt of the electrical signal (claim 1);

in which a motion-transmitting structure is fast wit the movable end of the acutator, the motion-transmitting structure being connected to a working member so that moement of the actuator is translated to the working member, the motion-transmitting structure defining part of the roof wall and spaced from a remaining part of the roof wall to allow for movement of the motion-transmitting structure (clams 6/4/3/2/1);

in which the roof wall defines a cover that spans the walls to cover the elongate actuator, the motion-transmitting structure being shaped so that the cover and the motion-transmitting structure define generally co-planar surfaces that are spaced from, and generally parallel to the substrate, an opening being defined between the cover and the motion-transmitting surface to facilitate relative displacement of the cover and the motion-transmitting surface (claim 6/4/3/2/1);

in which the actuator includes at least one elongate actuator arm of a conductive material that is capable of thermal expansion to perform work, the actuator arm having an active portion that defines a heating circuit that is connected to the drive circuitry layer to be resistively heated on receipt of the electrical signal from the drive circuitry layer and subsequently cooled on termination of the signal and a passive portion which is insulated from the drive circuitry layer, the active and passive portions being positioned with respect to each other so that the arm experiences differential thermal expansion and contraction reciprocally to displace the moveable end of the actuator (claim 3);

in which the motion-transmitting structure defines a lever mechanism and has a fulcrum formation that is fast with the substrate with pivotal with respect to the substrate and a lever arm formation mounted on the fulcrum formation, an effort formation being connected between the movable end of the actuator and the lever arm formation and a load formation being connected between the lever arm formation and the working member (claims 4 and 6);

in which the lever arm formation, the cover and the walls define a unitary structure with the lever arm formation being connected to the walls with a pair of opposed portion formations that are configured to twist as the lever formation is displaced (claim 5);

in which the sidewalls include nozzle chamber walls, the roof wall defining a nozzle chamber together with the nozzle chamber walls and the motion-transmitting structure, the roof wall defining an ejection port in fluid communication with the nozzle chamber, the working member being in the form of a fluid ejection device that is positioned in the nozzle chamber, such that displacement of the working member results in ejection of fluid in the nozzle chamber from the ejection port, the substrate defining a fluid inlet channel in fluid communication with the nozzle chamber to supply the nozzle chamber with fluid (claim 6).

However, Co-pending Application 10/713070 does not teach in which the covering formation includes sidewalls that extend from the substrate and a roof wall that spans the substrate.

Nevertheless, Silverbrook (US 6666543) teaches in which the covering formation includes sidewalls that extend from the substrate and a roof wall that spans the substrate (claim 1).

It would have been obvious of one of ordinary skill at the time the invention was made to provide this obvious variation by modifying Co-pending application 10/713070 by the aforementioned teaching of Silverbrook (US 6666543) for the purpose of

Art Unit: 2853

providing a manner in which to efficiently eject ink from the type of apparatus at issue, as taught by Silverbrook (US 6666543).

This is a provisional obviousness-type double patenting rejection.

Claims 1 and 2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of Silverbrook (U.S. Patent No. 6666543) in view of Silverbrook (US 6588882). Silverbrook (US 6666543) discloses:

1. A micro-electromechanical assembly that comprises:

a substrate (claim 1);

a micro-electromechanical device that is positioned on the substrate and is electrically connected to the drive circuitry to be driven by electrical signals generated by the drive circuitry (claim 3/2/1);

and a covering formation positioned on the substrate so that the substrate and and is configured to enclosed the micro-electromechanical device (claim 1); and

in which the covering formation includes sidewalls that extend from the substrate and a roof wall that spans the substrate (claim 1).

The difference is Silverbrook (US 6666543) does not explicitly teach a substrate that incorporates drive circuitry.

Nevertheless, Silverbrook (US 6588882) teaches a substrate that incorporates drive circuitry.

It would have been obvious of one of ordinary skill at the time the invention was made to provide this obvious variation by modifying Silverbrook (U.S. Patent No.

Art Unit: 2853

6666543) by the aforementioned teaching of Silverbrook (US 6588882) for the purpose of providing a manner in which to efficiently eject ink from the type of apparatus at issue, as taught by Silverbrook (US 6588882).

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Raquel Y. Gordon, whose telephone number is (703) 308-0022. The Examiner can normally be reached on M Tu Th and F 8:30-6:00. Effective February 11, 2003, Ex. Gordon, can be reached at the new PTO facility at (571) 272-2145.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Stephen Meier can be reached on 703-308-4896. Effective February 11, 2003, the supervisor can be reached at the new PTO facility at (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3432. A new fax number will be forthcoming.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956. A new status inquiry number will be forthcoming.



Raquel Y. Gordon
Primary Examiner
Art Unit 2853
May 12, 2003

RAQUEL GORDON
PRIMARY EXAMINER